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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,396	07/23/2003	Kevin Gerard Fraser	STAR-2	9095
76656	7590	06/22/2010		
Patent Docket Department Armstrong Teasdale LLP One Metropolitan Square Suite 2600 St. Louis, MO 63102-2740				
EXAMINER				
YL, STELLA KIM				
ART UNIT		PAPER NUMBER		
1791				
NOTIFICATION DATE		DELIVERY MODE		
06/22/2010		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USpatents@armstrongteasdale.com

### Office Action Summary

**Application No.**

10/625,396

**Applicant(s)**

FRASER, KEVIN GERARD

**Examiner**

Stella Yi

**Art Unit**

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 2, 4-9, 12, 14-16, 19-22, 24 and 27-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-9, 12, 14-16, 19-22, 24, 27-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 26, 2010 has been entered.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 4, 8, 9, 12, 14, 15, 16, 19-21, 14, 17-19, 32, and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by GRAEBE (4,541,136).

Regarding Claims 1, 12, 14, 19, 21, 24, 27, GRAEBE discloses a method of fabricating a cellular/inflatable cushion, said method comprising:

forming the air cells (4) in a cavity mold by injection molding (Col.7, lines 12-19) to form a cushion first layer (26) of the flexible base (2) that is formed integrally with a plurality of hollow air cells (4) (Col.3, lines 56-57) that extend outward from the said first layer (26), such that each of the plurality of cells extends only from a root defined at the first layer (26) to a tip (22) (see Figs. 2 & 5; Col.3, lines 35-38 and 53-54), and such that

the plurality of channels (32) aligned substantially within the same plane and extending between adjacent said hollow air cells (4) (Col.4, lines 1-9; see Figs. 3 & 5), and wherein the plurality of said hollow air cells (4) are configured to expand only radially outward towards each other as an operating pressure within the cells is increased (Col.5, lines 13-45);

coupling a second layer (28) (sealing layer) to the first layer (26) (Col.3, lines 53-55); and

coupling a filling tube (6) (injection stem) in flow communication to the plurality of hollow air cells (4) to enable an operating pressure within only the plurality of hollow cells (4) extending from the same layer (26) to be changed (Col.3, lines 49-52; Col.5, lines 9-11; Fig.1).

Regarding Claims 4, 15, 16, 32, and 33, GRAEBE discloses coupling communicating strips (30) (third layer) to at least one of the first layer (26) and second layer (28) (Col.3, lines 63-38) wherein at least one of the second layer (28) and first layer (26) includes a plurality of fluid control devices (32) that are coupled together in flow communication, and wherein each fluid control device is positioned between adjacent hollow air cells (4) for selectively controlling flow communication independently to each of the plurality of hollow air cells (Col.4, lines 1-9; see Figs. 3 & 5). A filling tube (6) (inflation stem) is coupled in flow communication to the plurality of said hollow air cells (4) (Col.3, lines 49-52; Col.5, lines 9-11; Fig.1; Claims 1-3).

Regarding Claim 8, GRAEBE discloses coupling a filling tube (6) (injection stem) in flow communication to the plurality of hollow air cells (4) to enable an operating

pressure within only the plurality of hollow cells (4) extending from the same layer (26) to be changed (Col.3, lines 49-52; Col.5, lines 9-11; Fig.1).

Regarding Claims 9 and 20, GRAEBE discloses coupling the second layer (sealing layer) (28) to the first layer (flexible base) (26) by bonding it firmly together with rubber cement to form an air-tight seal along the periphery of the cushion (Col.4, lines 12-14) wherein bonding it firmly together with rubber cement is an adhesive process.

Regarding Claim 28, GRAEBE discloses the said strips (30) (release agent) prevents the upper and lower sheets (26) and (28) of the flexible base (2) from bonding together where they lie such that the strips (release agent) is contained within each of the plurality of ducts or channels (passageways) in flow communication (Col.3, lines 66 through Col.4, line 1).

Regarding Claim 29, GRAEBE ('136) discloses that communicating strips (30) (third layer) (outer layer) need not be separate elements of the base (2), but instead they may be formed integral with either the said upper sheet (26) (first layer) or the lower sheet (28) (second layer) (Col.6, lines 46-49).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 5-7, 22, and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over GRAEBE (4,541,136) as applied to claims 1, 4, 8, 9, 12, 14, 15, 16, 19-21, 14, 17-19, 32, and 33above, and further in view of GRAEBE (5,561,875).

The teachings of GRAEBE ('136) are applied as described above for claims 1, 4, 8, 9, 12, 14, 15, 16, 19-21, 14, 17-19, 32, and 33.

Regarding Claims 2 and 22, GRAEBE discloses a method of fabricating a cellular cushion, said method comprising:

forming the air cells (4) in a cavity mold by injection molding (Col.7, lines 12-19) to form a cushion first layer (26) of the base (2) that is formed integrally with a plurality of hollow air cells (4) (Col.3, lines 56-57) that extend outward from the said first layer (26) but is silent to a constant or uniform wall thickness. However, GRAEBE ('875) who also discloses that the formation of such thin walled flexible air cells can be achieved by injection molding (Col.4, lines 46-48) also teaches that all corners above the cell base (13) and the upstanding side walls (2) shown in Figure 1 have generous radii while maintaining uniformity of wall thickness to distribute stresses in the material used to form the cell (Col.7, lines 20-27). Such uniform wall thickness enhances life and function of the cells. Therefore, it would have been obvious to one of ordinary skill in the art to have modified the method of fabricating the cellular cushion of GRAEBE ('136) to include injection molding the air cells such that the plurality of the air cells formed are each defined by a wall having substantially uniform (constant) thickness across the first layer as taught by GRAEBE ('875). As disclosed by GRAEBE ('875), the motivation for the combination would have been to reduce stress points in the air cells by creating a

uniform wall thickness that can evenly distribute the stress in the cell thereby enhancing its life and function (Col.7, lines 20-27).

Regarding Claims 5 and 31, GRAEBE ('136) is silent to coupling the said third layer to the first layer such that the first layer is between the second and third layers. However, GRAEBE ('136) discloses that the said communicating strips (30) (third layer) need not be separate elements of the base (2), but instead they may be formed integral with either the said upper sheet (26) (first layer) or the lower sheet (28) (second layer) (Col.6, lines 46-49). Therefore, it would have been obvious to one of ordinary skill in the art that the third layer may be coupled to the first layer such that the first layer is between the second and third layers of GRAEBE ('136).

Regarding Claims 6 and 30, GRAEBE ('136) is silent to coupling the said third layer to the second layer such that the second layer is between the first and third layers. However, GRAEBE ('136) discloses that the said communicating strips (30) (third layer) need not be separate elements of the base (2), but instead they may be formed integral with either the said upper sheet (26) (first layer) or the lower sheet (28) (second layer) (Col.6, lines 46-49). Therefore, it would have been obvious to one of ordinary skill in the art that the third layer may be coupled to the second layer such that the second layer is between the second and third layers of GRAEBE ('136).

Regarding Claim 7, GRAEBE discloses coupling communicating strips (30) (third layer) to at least one of the first layer (26) and the second layer (28) further comprises: inserting the plurality of hollow air cells (4) through a plurality of openings (32) formed within the said third layer (30) (Col.4, lines 1-3), such that each respective

hollow air cell extends through a respective third layer opening (see Figure 5).

GRAEBE ('136) discloses in Figure 5, coupling the third layer (30) to the second layer (28) such that the third layer (30) is in between the first layer (26) and second layer (28) but is silent to coupling the third layer (30) to the first layer (26) such that the first layer (26) is between the second (28) and third (30) layers (see Figure 5). However, GRAEBE ('136) discloses that the said communicating strips (30) (third layer) need not be separate elements of the base (2), but instead they may be formed integral with either the said upper sheet (26) (first layer) or the lower sheet (28) (second layer) (Col.6, lines 46-49). Therefore, it would have been obvious to one of ordinary skill in the art that the third layer may be coupled to the first layer such that the first layer is between the second and third layers of GRAEBE ('136).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stella Yi whose telephone number is 571-270-5123. The examiner can normally be reached on Monday - Thursday from 8:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SY

/Jeff Wollschlager/  
Primary Examiner, Art Unit 1791